



9. ECOSYSTEM STATUS SUMMARY

9-1 General

This chapter summarizes the components of Fort Greely's ecosystems and their capability to support the needs of Fort Greely's military mission and its community. Changes over time, particularly since the beginning of Army use, are emphasized. Most of the chapter is speculative due to a lack of background data. Recent inventories and implementation of a Geographic Information System (GIS) are improving the Army's capability to analyze ecosystem trends.

9-2 Water Quality

The quality of surface water has remained high throughout Army occupation. There has been no reason to suspect degradation (beyond localized, temporary sedimentation) to Fort Greely surface waters. Limited monitoring of these waters has occurred due to little indication of problems.

Activity associated with Army occupation in the cantonment area has had minor effects on groundwater. These effects are generally associated with underground fuel storage tanks. Localized areas are being intensively monitored and mitigated, and there are no indications of deep groundwater pollution. Pollution is minor and localized, with no significant effects on human health.

AR 200-1 establishes the following objectives for water resources on Army lands:

- ▶ Conserve all water resources
- ▶ Control or eliminate sources of pollution to surface or groundwater through conventional or innovative treatment systems
- ▶ Demonstrate leadership in attaining the national goal of zero discharge of water pollutants

- ▶ Provide drinking water that meets applicable standards
- ▶ Cooperate with federal, state, and local regulatory authorities in forming and implementing water pollution control plans
- ▶ Control or eliminate runoff and erosion through sound vegetative and land management practices
- ▶ Consider nonpoint source pollution abatement in all construction, installation operations, and land management plans and activities

Attainment of most of the above objectives is not the responsibility of Army natural resources programs, but some of them, especially the first and last two, are clearly natural resources management concerns.

Erosion has not been identified as a significant threat to water quality. Munitions explosions and associated wildfires cause soil disturbance, which increases the risk of significant erosion.

Groundwater management consists of restoration projects associated with individual sources of pollution, generally associated with the CERCLA “Superfund” designation. These projects are not classified as natural resources management and are not included within this INRMP.

9-3 Soil Productivity

Army activity has had its greatest impacts on soil productivity in the cantonment area due to construction. Soils in other areas have been impacted by military activities localized around small arms ranges, roads, and other facilities.

Some siltation in the Delta Clearwater farming area may be due to road construction on lands that were leased to the Army prior to 1972. Roads and unplanned military trails channel water runoff, contributing to the silt load. Previous damage caused by the Army and others is being repaired gradually, as discussed in Section 14-5c.

Fort Greely soils have been relatively unaffected by military training activities. This is fortunate because permafrost is significantly affected by soil disturbance, and permafrost changes can trigger changes on other ecosystem functions.

9-4 Biodiversity

Most of the land was relatively undisturbed when it was withdrawn for military use. Because of limited data, it is not known whether the military mission has significantly affected biodiversity on Fort Greely. Biodiversity is difficult to quantify, with the exception of game and high interest species.

There has been no evidence that Army occupation had a significant adverse effect on plant or animal species beyond specific locations. Changes to ecosystems have been localized. They may have affected species abundance for short periods, but probably have not affected species richness. Greatest losses of habitat occurred in the cantonment area due to construction and associated urban development and use.

Biodiversity may have been enhanced by the re-introduction of bison into the interior Alaska ecosystem. Army occupation has provided bison habitat protection and improved its quality by clearing vegetation on ranges and repeated burning in Impact Areas.

Effects of noise on wildlife from military activities at Fort Greely are unknown. Military activity does negatively affect individual animals and could affect populations. No studies have been conducted on Fort Greely to measure military activity disturbance on specific species. Habitat Management Plans completed as a part of this INRMP identify sensitive wildlife habitats and implement management to protect these areas.

Effects of military-caused fires on biodiversity at Fort Greely are difficult to determine. Frequency of these fires exceeds natural fires in some areas, while other areas burn with less frequency than would occur naturally. Fire is discussed in several sections of this INRMP, especially Section 8-1b.

9-5 Support of the Military Mission

Fort Greely is fully capable of supporting its military mission. The military mission is natural resource dependent. The LRAM program (Section 14-5) mitigates damage caused by Fort Greely’s mission, and

other ITAM programs described within this INRMP will reduce future damage.

There is no evidence to suggest that the current military mission is jeopardized on Fort Greely due to the capability of the land to support that mission. In fact, based on past training levels, the land could support additional training.

9-6 Production of Renewable Resources and Recreation Opportunities

9-6a Forest Products

Commercial forestry has never been significant on Fort Greely lands, either before or after Army occupation. The capability of Fort Greely to support commercial forestry is increasing due to maturation of the forest in many areas.

9-6b Game and Associated Hunting and Fishing

Little is known about the status of game species on Fort Greely prior to the 1940s. Likewise, little information is available on quality of hunting, fishing, or trapping prior to establishment of Fort Greely. Fort Greely is recognized for its high quality moose hunting opportunities. Other game species are important for hunting, especially grouse. Fort Greely is one of the few places in the world where bison can be hunted for sport. The installation also is a popular fishing site.

There is little information on the status of game species except for big game harvest reports and surveys. Military activities, such as burning and clearing, which disturb vegetation, are beneficial to species that use early-succession habitats, such as moose. The capacity of the post to support fishing has increased, due to stocking efforts by ADF&G.

Approximately 350 hunting and 10 trapping permits are issued annually at Fort Greely. Fort Greely receives 25% of the angler use for the Alaska Department of Fish and Game, Delta Junction Fisheries Management Area. The Fort Greely Provost Marshal Office estimated that guide services provide

flights into the West Training Area for approximately 500 people annually to hunt the roadless areas (CEMML, 1998). USARAK should work with BLM to locate guides that may be operating hunting camps or providing services other than flights on Fort Greely, since these guiding activities must be permitted through the BLM. Public flight service personnel, guides, and outfitters must register as a business with the Director of Personnel and Community Activities, and the Fish and Wildlife Office on post, and may need to be permitted by the BLM under Special Recreation Use Permit guidelines before they are authorized to fly within military boundaries. There are no problems with accommodating such requests provided they are coordinated with military training activities.

9-6c Agriculture

Fort Greely cannot support traditional commercial agriculture. Poor soils, high water tables, steep slopes, a short growing season, and incompatibility with the military mission preclude the use of any Fort Greely land for agriculture.

9-6d Other Recreational Opportunities

Two cabins are located on North Twin Lake in the West Training Area to serve the trail system used for hiking and skiing. A cabin was built on South Twin Lake for use by the Boy Scouts and the general public. There are several firepits between North and South Twin Lakes and a few picnic tables at Bolio Lake (CEMML, 1998).

The most common hike at Fort Greely is to the top of Donnelly Dome, east of the Washington Range along the Richardson Highway. A popular snowmachine trail is located in the northwest area of the West Training Area. Snowmachiners travel the Winter Trail from Blair Lakes on TFTA to the northwest boundary of the West Training Area, to Koole Lake. Some continue on the trail across the northern boundary of the West Training Area (CEMML, 1998). The winter trail is also used for dog sledding.

